Cardiovascular Disease Risk and Breast Cancer Outcomes: A Pilot Study

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Breast cancer and cardiovascular disease (CVD) are two important health problems in women. The American Cancer Society, the American Heart Association, and the American Diabetes Association joined forces in 2004 to promote health and reduce risk factors for cancer, CVD (including stroke), and diabetes—the three most common causes of death in the United States (Eyre, Kahn, & Robertson, 2004). Evidence suggests that these diseases share common risk factors. Interventions directed at primary prevention, including public awareness of healthy lifestyles, should reduce morbidity and mortality for all three diseases (Eyre et al., 2004).

Emerging data are suggestive that breast cancer and CVD share more risk factors than previously believed. For example, diabetes, a well-established risk factor for CVD, is associated with an increased risk of breast cancer and poor outcomes (Coughlin, Calle, Teras, Petrelli, & Thun, 2004; Larsson, Mantzoros, & Wolk, 2007). In addition, inflammation, a long-known risk factor for CVD, has emerged as a risk factor for cancer (Colotta, Allavena, Sica, Garlanda, & Mantovani, 2009). Promotion of a healthy lifestyle to reduce what were once considered traditional CVD risk factors may actually prevent breast cancer or improve breast cancer survival. However, no comprehensive study has been conducted on shared multiple risk factors for these two diseases and a potential relationship with breast cancer outcomes. To fill the gap, the aim of this pilot study was to begin exploring multiple CVD risk factors and breast cancer outcomes in women who have been diagnosed with breast cancer.

The objectives of this study were (a) to assess the feasibility of using the health record for profiling prevalence of multiple CVD risk factors (increased age, dyslipidemia, high body mass index [BMI], diabetes, smoking, hypertension, family history of premature coronary artery disease, estrogen therapy, sedentary lifestyle, inflammation, and depression) in women at

Purpose/Objectives: To assess feasibility of using electronic health records for profiling multiple cardiovascular disease (CVD) risk factors in women with breast cancer at diagnosis and five years post-treatment, and to explore relationships among CVD risk factors and breast cancer outcomes.

Design: Retrospective, descriptive.

Setting: A comprehensive cancer center in the southwestern United States.

Sample: 200 women with stage 0–III breast cancer.

Methods: A record review using an instrument to profile multiple CVD risk factors and breast cancer outcomes.

Main Research Variables: CVD risk factors, such as blood pressure (BP) and hemoglobin A1C (HbA1C), and breast cancer outcomes, such as metastasis.

Findings: Most data on CVD risk factors were undocumented. Even BP values to assess hypertension were missing in 35% of women at breast cancer diagnosis. Women with poor outcomes had trends toward higher blood glucose and HbA1C than women with good outcomes.

Conclusions: The study failed to comprehensively capture CVD risk factors in women with breast cancer because of missing data. Glucose control may be associated with breast cancer outcomes.

Implications for Nursing: Better documentation of shared risk factors for CVD and breast cancer is needed. Prospective studies are needed to evaluate shared CVD risk factors and breast cancer outcomes because of missing health record information.

Key Words: cardiovascular disease risk; breast cancer; breast cancer outcomes; electronic health records

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the time of the initial diagnosis and five years post-treatment, and relate these to breast cancer outcomes (tumor recurrence, stage progression, metastasis, and death) at five years post-treatment; and (b) to explore possible relationships among multiple CVD risk factors and breast cancer outcomes.